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EXAMINER	
LE, MIRANDA	

ART UNIT	PAPER NUMBER
2159	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,334	KISLIAKOV, ANDREW	
	Examiner	Art Unit	
	MIRANDA LE	2159	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,7-23,28-33,37,38,40,41 and 43-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-23,28-33,37,38,40,41 and 43-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/16/09 has been entered.

This communication is responsive to Amendment, filed 03/16/09.

Claims 1, 2, 7-23, 28-33, 37, 38, 40, 41, 43-46 are pending in this application. This action is made non-Final.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 40, 41 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 40 recites "A computer program product comprising a computer-readable medium...", however, the claim fails to place the invention squarely within one statutory class of invention. There exists no explanatory or defining language in the specification or elsewhere in the claims to enable the Examiner to determine which media, in particular, Applicant seeks to include in this claim. It

is a reasonable interpretation of this claim language that Applicant may be attempting to include computer readable media that falls outside the limits of § 101, for example, transmission media. In paragraph [0077] of the instant specification, Applicant has provided evidences that Applicant intends the "medium" to include signals such as transmission media (i.e., communication networks).

The claim is thus drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

A computer-readable medium including a carrier wave, or signal, is non-statutory subject matter as set forth in MPEP 2106 (IV)(B)(2)(a). Therefore, claim 19 is not limited to tangible embodiments, instead being sufficiently broad so as to encompass intangible media such as transmission media; the claims are not limited to statutory subject matter and are therefore non-statutory.

Applicant is advised to amend the claims as "A computer product comprising a computer readable **storage** medium..."; also amend the specification to include the term "computer readable **storage** medium"; in order to overcome the 101 issues.

Similar problem exists in claim 41.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 7-10, 12-15, 17, 18, 22, 23, 28-31, 33, 37, 38, 40, 41, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view of Nunally et al. (US Patent No. 6,035,341), and further in view of Bratton, Timothy R. et al. (US Pub No. 20030018581).

As per claim 1, Pan teaches a method of storing data, said method comprising the steps of:

storing data *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* comprising one or more data samples, each data sample having additional non-standard information *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, in one or more media files *(i.e. Data stream #1, Data stream #2 in Fig. 2; a digital*

file, col. 1, line 59 to col. 2, line 5) configured for use by a media player application *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)* in playing the data samples *(i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the additional non-standard information being used for recovery of the media file upon the media file being damaged *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream. For example, a time-stamp of an event in the second data stream nearest the time-stamp of the identified event in the first stream is determined and the data pointer associated with the second time-stamp is then used to locate the event-associated data in the second data stream that correlates with event-associated data in the first data stream, col. 2, lines 27-40)*; and

storing, in an index file *(i.e. a data set is maintained in an index file, col. 2, lines 11-26)* associated with one or more the media files, at least an offset value *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* for each of the data samples representing a location *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5)* of each of the data samples in a corresponding one of the media files *(i.e. data pointer, time, See Fig. 2; correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1,*

lines 46-58; See Fig. 2), the additional non-standard information comprising at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40)* for one or more of the data samples *(i.e. event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each of the timestamps *(i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2)* indicating a capture time of an associated data sample *(i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).*

It should be note that Pan teaches the additional non-standard information of the media file is used in constructing the index file as showed in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39)*, wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* representing the location of each of the data samples in the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium*

such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).

Pan does not explicitly teach:

the additional non-standard information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional non-standard information *(i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6)* of the media files *(i.e. LOB, Large objects, such as image data, col. 2, lines 27-37)* being used in reconstructing the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)* upon corruption of the index file *(i.e. the index could be corrupted, col. 2, lines 38-44)*, the reconstructed index file comprising the offset values *(i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6)* representing the location of each of the data samples in the media files *(i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first*

page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).

It should be noted that the Applicant's invention discloses using additional non-standard information such as image information in order to reconstruct the index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches using of additional non-standard information such as image information in order to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not seem to explicitly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files *(i.e. the sequence is added to a positive result list (step 152) and the*

index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of achieving an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

Pan, Lyle, Nunally implicitly teaches "nonstandard information" as follows:

An index file (Pan, col. 2, lines 11-26).

Additional information within a space map page in a LOB table space of (Lyle, col. 4, line 60 to col. 5, line 6).

The index information for the file (Nunally, col. 8, line 66 to col. 9, line 14).

Although Pan, Lyle, Nunally do not specifically state the term "nonstandard information", Bratton teaches the additional nonstandard

information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Bratton at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Bratton. One of ordinary skill in the art would be motivated to make this combination in order to reconstruct a media file in view of Bratton (See Fig. 6; [0013]), as doing so would give the added benefit of efficiently playing various forms of media data as taught by Bratton ([0006]).

As to claims 22, Pan teaches a method of storing video *(i.e. video frames, col. 11, lines 45-52)* and associated text data *(i.e. textual data stream, col. 11, lines 16-34),* said method comprising the steps of:

storing the video *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* associated text data *(i.e. textual data stream, col. 11, lines 16-34)*, as one or more data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, in one or more media files in accordance with first file format *(i.e. closed captions for video or audio content, col. 11, lines 15-23; Another aspect of the present invention involves correlating more than two data streams and storing related time-stamped event data pointers to a storage device for later retrieval. As previously mentioned, the time-stamps indicate a reference time when a particular event was detected while a corresponding data pointer indicates a location where data*

associated with that event was stored in the data file, col. 2, lines 58-64), each media file being configured for use by a media file player application in playing the video data *(i.e. video playback system, col. 11, lines 45-52)*, the associated text data being used for recovery of the media file upon the media file being damaged *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream. For example, a time-stamp of an event in the second data stream nearest the time-stamp of the identified event in the first stream is determined and the data pointer associated with the second time-stamp is then used to locate the event-associated data in the second data stream that correlates with event-associated data in the first data stream, col. 2, lines 27-40)*;

storing, in a index file *(i.e. a data set is maintained in an index file, col. 2, lines 11-26)* in accordance with a second file format *(i.e. audio samples, col. 11, lines 45-52)*, at least an offset value for each of the data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)* representing a location of each of the one or more data samples in a corresponding one of the media files *(i.e. Another aspect of the present invention involves correlating more than two data streams and storing related time-stamped event data pointers to a storage device for later retrieval. As previously mentioned, the time-stamps indicate a reference time when a particular event was detected while a corresponding data pointer indicates a location where data associated with that event was stored in the data file, col. 2, lines 58-64)*; and

adding additional non-standard information *(i.e. data pointer, time, See Fig. 2)* interspersed throughout each of the media files *(i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58)*, the media files including the additional non-standard information being readable by a media player application *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)* corresponding at least to first file format *(i.e. video playback system … a standard media player, col. 11, lines 45-52)*, the additional non-standard information comprising at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40)* for one or more of the data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each of the timestamps indicating a capture time *(i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2)* of an associated data sample *(i.e. The principles of the present invention have applications beyond note taking, text entry, or a close captioning system. One example is a video surveillance system for an automobile parking lot. This example system uses multiple video cameras. One set of cameras record the automobiles and associated license plates at the entrance and exits. Another set of cameras record the parking area. In current video surveillance systems, cameras continuously record video on tape. This results in a waste of video recording media. A more efficient system would record, for example, only for a few seconds after a motion detector indicates when a car has entered or left*

the garage or parking space. This type of sporadic recording renders it difficult to determine where an event is recorded on a videotape. Even a time-stamped videotape must be searched for the appropriate time match, col. 13, line 62 to col. 14, line 9).

It should be note that Pan teaches the additional non-standard information of the media file is used in constructing the index file as showed in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39),* wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* representing the location of each of the data samples in the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).*

Pan does not specifically teach:

the non-standard additional information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the

data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional non-standard information *(i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6)* of the media files *(i.e. LOB, Large objects, such as image data, col. 2, lines 27-37)* being used in reconstructing the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)* upon corruption of the index file *(i.e. the index could be corrupted, col. 2, lines 38-44)*, the reconstructed index file comprising the offset values *(i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6)* representing the location of each of the data samples in the media files *(i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6)*.

It should be noted that the Applicants invention discloses using additional non-standard information such as image information in order to reconstruct the

index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches using of additional non-standard information such as image information in order to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not specifically teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files *(i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the*

hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of achieving an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

Pan, Lyle, Nunally implicitly teaches "nonstandard information" as follows:

An index file (Pan, col. 2, lines 11-26).

Additional information within a space map page in a LOB table space of (Lyle, col. 4, line 60 to col. 5, line 6).

The index information for the file (Nunally, col. 8, line 66 to col. 9, line 14).

Although Pan, Lyle, Nunally do not specifically state the term "nonstandard information", Bratton teaches the additional nonstandard information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Bratton at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Bratton. One of ordinary skill in the art would be motivated to make this

combination in order to reconstruct a media file in view of Bratton (See Fig. 6; [0013]), as doing so would give the added benefit of efficiently playing various forms of media data as taught by Bratton ([0006]).

As per claim 37, Pan teaches an apparatus for storing data, said apparatus comprising of:

storage means for storing data *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* comprising one or more data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each data sample having additional non-standard information, in one or more media files *(i.e. Data stream #1, Data stream #2 in Fig. 2; a digital file, col. 1, line 59 to col. 2, line 5)* configured for use by a media player application *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)* in playing the data samples *(i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the additional non-standard information being used for recovery of the media file upon the media file being damage *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream. For example, a time-stamp of an event in the second data stream nearest the time-stamp of the identified event in the first stream is determined and the data pointer associated with the second time-stamp is then used to*

locate the event-associated data in the second data stream that correlates with event-associated data in the first data stream, col. 2, lines 27-40); and

processor means for storing, in an index file *(i.e. a data set is maintained in an index file, col. 2, lines 11-26)* associated with one or more the media files, at least an offset value *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* for each of the data samples representing a location *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5)* of each of the data samples in a corresponding one of the media files *(i.e. data pointer, time, See Fig. 2)*; *correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2)*, the additional non-standard information comprising at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40)* for one or more of the data samples *(i.e. event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each of the timestamps *(i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2)* indicating a capture time of an associated data sample *(i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).*

It should be note that Pan teaches the additional non-standard information of the media file is used in constructing the index file as showed in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39),* wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* representing the location of each of the data samples in the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).*

Pan does not specifically teach:

the additional non-standard information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional non-standard information *(i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6)* of the

media files *(i.e. LOB, Large objects, such as image data, col. 2, lines 27-37)* being used in reconstructing the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)* upon corruption of the index file *(i.e. the index could be corrupted, col. 2, lines 38-44)*, the reconstructed index file comprising the offset values *(i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6)* representing the location of each of the data samples in the media files *(i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).*

It should be noted that the Applicants invention discloses the using additional non-standard information such as image information in order to reconstruct the index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

As mentioned above, Lyle teaches the using of additional non-standard information such as image information in order to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not specifically teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files *(i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the

system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of achieving an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

Pan, Lyle, Nunally implicitly teaches "nonstandard information" as follows:

An index file (Pan, col. 2, lines 11-26).

Additional information within a space map page in a LOB table space of (Lyle, col. 4, line 60 to col. 5, line 6).

The index information for the file (Nunally, col. 8, line 66 to col. 9, line 14).

Although Pan, Lyle, Nunally do not specifically state the term "nonstandard information", Bratton teaches the additional nonstandard information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Bratton at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Bratton. One of ordinary skill in the art would be motivated to make this combination in order to reconstruct a media file in view of Bratton (See Fig. 6; [0013]), as doing so would give the added benefit of efficiently playing various forms of media data as taught by Bratton ([0006]).

As per claim 38, Pan teaches an apparatus for storing video data and associated text data *(i.e. textual data stream, col. 11, lines 16-34)*, said apparatus comprising of:

media file generation means for storing the video data *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* and associated text data *(i.e. textual data stream, col. 11, lines 16-34)*, as one or more data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, in one or more media files in accordance with a first file format *(i.e. Data stream #1, Data stream #2 in Fig. 2; a digital file, col. 1, line 59 to col. 2, line 5)*, each media file configured for use by a media player application *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)* in playing the video data *(i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the associated text data being used for recovery of the media file upon the media file being damaged *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream. For example, a time-stamp of an event in the second data stream nearest the time-stamp of the identified event in the first stream is determined and the data pointer associated with the second time-stamp is then used to locate the event-associated data in the second data stream that correlates with event-associated data in the first data stream, col. 2, lines 27-40)*;

processor means for storing in an index file in accordance with a second file format *(i.e. a data set is maintained in an index file, col. 2, lines 11-26)*, at least an offset value *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* for each of the data samples representing a location of each of the one or more data samples in a corresponding one of the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5)*, and for adding *(i.e. informational data set is generated and stored in an index file, Abstract)* additional non-standard information *(i.e. data pointer, time, See Fig. 2)* interspersed throughout each of the media files *(i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2)*, the media file comprising the additional non-standard information being readable by the media player application corresponding at least to the first file format *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the additional non-standard information comprising at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40)* for one or more data samples *(i.e. event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each of the timestamps *(i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2)* indicating a capture time of an associated data sample *(i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for*

example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be note that Pan teaches the additional non-standard information of the media file is used in constructing the index file as showed in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39),* wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* representing the location of each of the data samples in the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).*

Pan does not seem to explicitly teach:

the additional non-standard information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the

data samples in the media files, wherein the reconstructed index file replaces the index file associated with the one or more media files.

Lyle teaches:

the additional non-standard information *(i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6)* of the media files *(i.e. LOB, Large objects, such as image data, col. 2, lines 27-37)* being used in reconstructing the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)* upon corruption of the index file *(i.e. the index could be corrupted, col. 2, lines 38-44)*, the reconstructed index file comprising the offset values *(i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6)* representing the location of each of the data samples in the media files *(i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6)*.

It should be noted that the Applicants invention discloses using additional non-standard information such as image information in order to reconstruct the

index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Similarly, Lyle teaches using of additional non-standard information such as image information in order to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not fairly teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files *(i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the*

hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of achieving an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

Pan, Lyle, Nunally implicitly teaches "nonstandard information" as follows:

An index file (Pan, col. 2, lines 11-26).

Additional information within a space map page in a LOB table space of (Lyle, col. 4, line 60 to col. 5, line 6).

The index information for the file (Nunally, col. 8, line 66 to col. 9, line 14).

Although Pan, Lyle, Nunally do not specifically state the term "nonstandard information", Bratton teaches the additional nonstandard information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Bratton at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Bratton. One of ordinary skill in the art would be motivated to make this

combination in order to reconstruct a media file in view of Bratton (See Fig. 6; [0013]), as doing so would give the added benefit of efficiently playing various forms of media data as taught by Bratton ([0006]).

As per claim 40, Pan teaches a computer product comprising a computer readable medium having recorded thereon a computer program for storing data *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)*, said program comprising:

code for storing data *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* comprising one or more data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each data sample having nonstandard information, in one or more media files configured for use by a media player application *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)* in playing the data samples *(i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the additional nonstandard information being used for recovery of the media file upon the media file being damaged *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream. For example, a time-stamp of an event in the second data stream nearest the time-stamp of the identified event in the first stream is determined and the data pointer associated*

with the second time-stamp is then used to locate the event-associated data in the second data stream that correlates with event-associated data in the first data stream, col. 2, lines 27-40); and

code for storing in an index file associated with one or more of the media files *(i.e. a data set is maintained in an index file, col. 2, lines 11-26)*, at least an offset value *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* for each of the data samples representing a location *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5)* of each of the data samples in a corresponding one of the media files *(i.e. data pointer, time, See Fig. 2; correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2)*, the additional nonstandard information comprising at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40)* for one or more of the data samples *(i.e. event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each of the timestamps *(i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2)* indicating a capture time of an associated data sample *(i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video*

recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).

It should be note that Pan teaches the additional nonstandard information of the media file is used in constructing the index file as showed in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39),* wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* representing the location of each of the data samples in the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).*

Pan does not specifically teach:

the additional non-standard information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, and the reconstructed index file replacing the index file associated with the one or more media files.

Lyle teaches:

the additional non-standard information *(i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6)* of the media files *(i.e. LOB, Large objects, such as image data, col. 2, lines 27-37)* being used in reconstructing the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)* upon corruption of the index file *(i.e. the index could be corrupted, col. 2, lines 38-44)*, the reconstructed index file comprising the offset values *(i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6)* representing the location of each of the data samples in the media files *(i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space, col. 4, line 60 to col. 5, line 6).*

It should be noted that the Applicants invention discloses using additional non-standard information such as image information in order to reconstruct the index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

Analogously, Lyle teaches the using of additional non-standard information such as image information in order to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not specifically teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches this limitation as the step of updating the index information for video and audio files *(i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data*

files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of achieving an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

Pan, Lyle, Nunally implicitly teaches "nonstandard information" as follows:

An index file (Pan, col. 2, lines 11-26).

Additional information within a space map page in a LOB table space of (Lyle, col. 4, line 60 to col. 5, line 6).

The index information for the file (Nunally, col. 8, line 66 to col. 9, line 14).

Although Pan, Lyle, Nunally do not specifically state the term "nonstandard information", Bratton teaches the additional nonstandard information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Bratton at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Bratton. One of ordinary skill in the art would be motivated to make this

combination in order to reconstruct a media file in view of Bratton (See Fig. 6; [0013]), as doing so would give the added benefit of efficiently playing various forms of media data as taught by Bratton ([0006]).

As per claim 41, a computer product comprising a computer readable medium having recorded thereon a computer program for storing video *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* and associated text data *(i.e. textual data stream, col. 11, lines 16-34)*, said program comprising:

code for storing the video data *(i.e. video and audio data is stored on a hard disk, col. 4, lines 58-65)* associated text data *(i.e. textual data stream, col. 11, lines 16-34)*, as one or more data samples *(i.e. a sequence of video and audio frames, col. 3, lines 20-27; event e1, … event e6; event f1 …. event f5; See Fig. 2)*, in one or more media files in accordance with a first file format *(i.e. Data stream #1, Data stream #2 in Fig. 2; a digital file, col. 1, line 59 to col. 2, line 5)*, each media file being configured for use by a media player application *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)* in playing the video data *(i.e. a "data stream" is a sequence of video and audio frames read from a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the associated text data being used for recovery of the media file upon the media file being damaged *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream. For example, a time-stamp of an event in the second*

data stream nearest the time-stamp of the identified event in the first stream is determined and the data pointer associated with the second time-stamp is then used to locate the event-associated data in the second data stream that correlates with event-associated data in the first data stream, col. 2, lines 27-40);

code for storing, in an index file in accordance with a second file format *(i.e. a data set is maintained in an index file, col. 2, lines 11-26)*, at least an offset value *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* for each of the data samples representing a location of each of the one or more data samples in a corresponding one of the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5)*; and

code for adding *(i.e. informational data set is generated and stored in an index file, Abstract)* additional nonstandard information *(i.e. data pointer, time, See Fig. 2)* interspersed throughout each of the media files *(i.e. correlating data among multiple data streams based on a use of time-stamps and related positional information, col. 1, lines 46-58; See Fig. 2)*, the media files comprising the additional nonstandard information being readable by the media player application corresponding at least to the first file format *(i.e. a media file that can be played back through an application such as Microsoft Windows Media Player, col. 3, lines 20-27)*, the additional nonstandard information comprising at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col.*

2, lines 27-40) for one or more of the data samples *(i.e. event e1, … event e6; event f1 …. event f5; See Fig. 2)*, each of the timestamps *(i.e. t1, t3, t10, t6, t8, t11, t2, t4, t5, t7, t9; See Fig. 2)* indicating a capture time of an associated data sample *(i.e. During a presentation of information at slide display device 580, an audio-video recording unit 585 captures details of, for example, a corresponding slide presentation including a lecturer delivering a speech. A data stream generated by the audio-video recording unit 585 is captured for storage in a data file at data processing unit 560, col. 10, lines 39-51).*

It should be note that Pan teaches the additional nonstandard information of the media file is used in constructing the index file as showed in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39),* wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

The index file of Pan further comprises the offset values *(i.e. positional information, col. 1, line 59 to col. 2, line 5)* representing the location of each of the data samples in the media files *(i.e. positional information indicating where data associated with the events are located in a corresponding storage medium such as a digital file or where the data is located within the data stream, col. 1, line 59 to col. 2, line 5).*

Pan does not seem to teach:

the additional nonstandard information of the media files being used in reconstructing the index file upon corruption of the index file, the reconstructed index file comprising the offset values representing the location of each of the data samples in the media files, and the reconstructed index file replacing the index file associated with the one or more media files.

Lyle teaches:

the additional non-standard information *(i.e. additional information within a space map page in a LOB table space, col. 4, line 60 to col. 5, line 6)* of the media files *(i.e. LOB, Large objects, such as image data, col. 2, lines 27-37)* being used in reconstructing the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)* upon corruption of the index file *(i.e. the index could be corrupted, col. 2, lines 38-44)*, the reconstructed index file comprising the offset values *(i.e. the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6)* representing the location of each of the data samples in the media files *(i.e. The index recovery system 124 of the present invention includes additional information within a space map page in a LOB table space. In addition to recording whether a page is allocated or deallocated, the index recovery system 124 indicates for each page in the space map page whether that page is the first page allocated to a LOB. Storing this information with a LOB low-level space map page enables the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all*

pages in the LOB table space, col. 4, line 60 to col. 5, line 6).

It should be noted that the Applicants invention discloses using additional non-standard information such as image information in order to reconstruct the index file (said image information allows for reconstruction of said index file upon corruption thereof, See Application, [0017]).

As mentioned above, Lyle teaches using of additional non-standard information such as image information in order to rebuild the index.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan and Lyle at the time the invention was made to modify the system of Pan to include the limitations as taught by Lyle. One of ordinary skill in the art would be motivated to make this combination in order to recover an index on an auxiliary table in view of Lyle (col. 4, line 60 to col. 5, line 6), as doing so would give the added benefit of enabling the index recovery system 124 to recover an index on an auxiliary table by reading only the LOB low-level space map pages, instead of all pages in the LOB table space as taught by Lyle (col. 4, line 60 to col. 5, line 6).

Pan, Lyle do not specifically teach the reconstructed index file replaces the index file associated with the one or more media files.

Nunally teaches the step of updating the index information for video and audio files *(i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event*

detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally at the time the invention was made to modify the system of Pan, Lyle to include the limitations as taught by Nunally. One of ordinary skill in the art would be motivated to make this combination in order to update the index information for video and audio files in view of Nunally (col. 10, lines 37-62), as doing so would give the added benefit of achieving an integrated video and audio recording device with advanced information management capabilities as taught by Nunally (col. 1, lines 37-39).

Pan, Lyle, Nunally implicitly teaches "nonstandard information" as follows:

An index file (Pan, col. 2, lines 11-26).

Additional information within a space map page in a LOB table space of (Lyle, col. 4, line 60 to col. 5, line 6).

The index information for the file (Nunally, col. 8, line 66 to col. 9, line 14).

Although Pan, Lyle, Nunally do not specifically state the term "nonstandard information", Bratton teaches the additional nonstandard information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Bratton at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Bratton. One of ordinary skill in the art would be motivated to make this combination in order to reconstruct a media file in view of Bratton (See Fig. 6; [0013]), as doing so would give the added benefit of efficiently playing various forms of media data as taught by Bratton ([0006]).

As to claims 2, 23, Lyle, as combined, teaches the additional non-standard information is used exclusively for reconstruction of the index file *(i.e. to recover an index on an auxiliary table by reading only the LOB low-level space map pages, col. 4, line 60 to col. 5, line 6)*.

As to claims 7, 28, Pan, as combined, teaches the additional non-standard information comprises a resolution of an associated sample *(i.e. The consequences of latency depend upon the application and the desired time resolution at which queries are being made, col. 12, lines 46-55)*.

As to claims 8, 29, Pan, as combined, teaches the index file comprises frame rate variation information *(i.e. video rate of 30 frames per second, col. 11, line 58 to col. 12, line 2)*.

As to claims 9, 30, Pan, as combined, teaches the additional non-standard information is stored as one or more dedicated samples of the media file *(i.e. FIG. 3 is a graph of sample trigger events as recorded over time according to sample data in the table of FIG. 2. According to the principles of the present invention, events in one data file are indexed to events in a second data file based on time-stamps and corresponding data pointers, col. 7, lines 10-14).*

As to claims 10, 31, Nunally, as combined, teaches wherein the media file is configured in accordance with the Microsoft AVI file format *(i.e. Both the video data and the audio data are stored in an audio/video interleave (AVI) format, col. 8, line 66 to col. 9, line 14).*

As per claim 12, Pan, as combined, teaches a method according to claim 1, wherein the data is video data *(i.e. video frames, col. 11, lines 45-52).*

As per claim 13, Pan, as combined, teaches a method according to claim 1, wherein the data is text data *(i.e. textual data stream, col. 11, lines 16-34).*

As per claim 14, Pan, as combined, teaches a method according to claim 1, wherein the data is video data and associated text data *(i.e. closed captions for video or audio content, col. 11, lines 16-23).*

As to claims 15, 33, Pan, as combined, teaches the video and associated text data are captured for security purposes *(i.e. The principles of the present invention have applications beyond note taking, text entry, or a close captioning system. One example is a video surveillance system for an automobile parking lot. This example system uses multiple video cameras. One set of cameras record the automobiles and associated license plates at the entrance and exits. Another set of cameras record the parking area. In current video surveillance systems, cameras continuously record video on tape. This results in a waste of video recording media. A more efficient system would record, for example, only for a few seconds after a motion detector indicates when a car has entered or left the garage or parking space. This type of sporadic recording renders it difficult to determine where an event is recorded on a videotape. Even a time-stamped videotape must be searched for the appropriate time match, col. 13, line 62 to col. 14, line 9).*

As per claim 17, Nunally, as combined, teaches a method according to claim 13, wherein a plurality of copies of a corresponding text string are included in each text sample of the media file *(i.e. sound, image or closed-captioning analysis may be applied to a previously-recorded signal reproduced from the storage device 326 and routed to the analysis circuit 324 via a signal path 330, col. 16, line 32 to col. 17, line 2).*

As per claim 18, Nunally, as combined, teaches a method according to claim 17, wherein a first copy of the text string *(i.e. sound, image or closed-captioning analysis may be applied to a previously-recorded signal reproduced from the storage device 326 and routed to the analysis circuit 324 via a signal path 330, col. 16, line 32 to col. 17, line 2)* is configured in accordance with the AVI file format *(i.e. Both the video data and the audio data are stored in an audio/video interleave (AVI) format, col. 8, line 66 to col. 9, line 14)*.

As to claims 43, 44, 45, 46, Pan, as combined, teaches the additional non-standard information comprises at least a timestamp *(i.e. the time-stamps are used as an index to locate where the data associated with the corresponding event is stored in the second data stream, col. 2, lines 27-40)* for one or more of the data samples following the additional non-standard information *(i.e. data pointer, time, See Fig. 2)*.

Claims 11, 16, 19, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view of Nunally et al. (US Patent No. 6,035,341), and further in view of Otsuka et al. (US Patent No. 6,065,010).

As to claims 11, 32, Pan, Lyle, Nunally do not specifically teach the index file is configured in accordance with the Apple QuickTime file format.

Otsuka teaches the index file is configured in accordance with the Apple QuickTime file format *(i.e. the data of the scenes can be recorded in a number of*

different formats including: the Motion Picture Experts Group (MPEG) format; the Quicktime format; or the Joint Photographic Experts Group (JPEG) format, col. 5, line 49 to col. 6, line 2).

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Otsuka at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Otsuka. One of ordinary skill in the art would be motivated to make this combination in order to define virtual files, each virtual file is associated with a separate individual data of a group of data within a physical file in view of Otsuka (col. 6, lines 3-15), as doing so would give the added benefit of having the data of the virtual file rapidly and efficiently accessed by an application of computer system without the need to search through the physical file for it as taught by Otsuka (col. 6, lines 3-15).

As per claim 16, Pan, Lyle, Nunally do not seem to explicitly teach a method according to claim 12, wherein each video sample is a separate JPEG file.

Otsuka teaches this limitation *(i.e. the data of the scenes can be recorded in a number of different formats including: the Motion Picture Experts Group (MPEG) format; the Quicktime format; or the Joint Photographic Experts Group (JPEG) format, col. 5, line 49 to col. 6, line 2).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Otsuka at the time the invention was made to

modify the system of Pan, Lyle, Nunally to include the limitations as taught by Otsuka. One of ordinary skill in the art would be motivated to make this combination in order to define virtual files, each virtual file is associated with a separate individual data of a group of data within a physical file in view of Otsuka (col. 6, lines 3-15), as doing so would give the added benefit of having the data of the virtual file rapidly and efficiently accessed by an application of computer system without the need to search through the physical file for it as taught by Otsuka (col. 6, lines 3-15).

As per claim 19, Pan, Lyle, Nunally do not semm to teach a method according to claim 17, wherein a second copy of the text string is configured in accordance with the QuickTime file format.

Otsuka teaches this limitation *(i.e. the data of the scenes can be recorded in a number of different formats including: the Motion Picture Experts Group (MPEG) format; the Quicktime format; or the Joint Photographic Experts Group (JPEG) format, col. 5, line 49 to col. 6, line 2)*.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Otsuka at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Otsuka. One of ordinary skill in the art would be motivated to make this combination in order to define virtual files, each virtual file is associated with a separate individual data of a group of data within a physical file in view of Otsuka (col. 6, lines 3-15), as doing so would give the added benefit of having the data of

the virtual file rapidly and efficiently accessed by an application of computer system without the need to search through the physical file for it as taught by Otsuka (col. 6, lines 3-15).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view of Nunally et al. (US Patent No. 6,035,341), and further in view of Abbott et al. (US Patent No. 6,654,933).

As per claim 21, Pan, Lyle, Nunally do not seem to teach a method according to claim 1, wherein the index file contains a track referencing at least the media file.

Abbott teaches this limitation *(i.e. the audio and video tracks of a movie, col. 5, lines 3-27).*

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Abbott at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Abbott. One of ordinary skill in the art would be motivated to make this combination in order to encode the audio and video tracks and store in a file in view of Abbott (col. 4, lines 3-27), as doing so would give the added benefit of obtaining a synchronization method that includes constructing a base atom index file that contains base atom index boundaries as taught by Abbott (col. 2, lines 45-54).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (US Patent No. 6,993,246), in view of Lyle (US Patent No. 6,470,359), in view of Nunally et al. (US Patent No. 6,035,341), and further in view of Gutfreund et al. (US Patent No. 6,665,835).

As per claim 20, Pan, Lyle, Nunally do not specifically teach a method according to claim 1, further comprising the step of inserting one or more empty samples into the media file to compensate for any missed samples.

Gutfreund teaches this limitation *(i.e. A reference for the timer concerning where in the video stream the event occurs is maintained by creating a series of predetermined time stamps in the video stream. That is, a time stamp is created every second with no component or event associated therewith. The granularity of such predetermined time stamps is determined according to the specific application requirements, col. 8, line 61 to col. 8, line 14)*.

It would have been obvious to one of ordinary skill of the art having the teaching of Pan, Lyle, Nunally, Gutfreund at the time the invention was made to modify the system of Pan, Lyle, Nunally to include the limitations as taught by Gutfreund. One of ordinary skill in the art would be motivated to make this combination in order to create a series of predetermined time stamp in the video stream in view of Gutfreund (col. 8, line 61 to col. 8, line 14), as doing so would give the added benefit of providing a real-time multimedia journaling application that is editable by a user to add other synchronized events as taught by Gutfreund (col. 2, lines 34-36).

Response to Arguments

Applicant's arguments filed 03/16/09 have been fully considered but they are not persuasive.

1. The addition nonstandard information.

According to the instant specification, paragraph [0180], the non-standard information as the information for reconstruct a fresh index file (See [0180], Specification), analogously, Pan, Lyle, Nunally implicitly read on "nonstandard information" as follows:

Nonstandard information limitation equates to an index file of Pan, col. 2, lines 11-26.

It should be note that Pan teaches the additional non-standard information of the media file is used in constructing the index file as shown in Fig. 2 *(i.e. a data set is maintained in an index file, col. 2, lines 11-26; The resulting event-data pointer record 152, (E.sub.i,j,P.sub.i,j,T.sub.i,j), is then stored in a data stream index file #1 235. There is usually one index file for each data stream, Pan, col. 4, lines 34-39),* wherein the data set of Pan comprises Event E (data sample of the claimed limitation), Pointer P (additional information of the claimed limitation), Timestamp T (additional information of the claimed limitation).

Nonstandard information limitation equates to additional information within a space map page in a LOB table space of Lyle, col. 4, line 60 to col. 5, line 6, which is used for recovering the index file, *(i.e. the index recovery system 124*

indicates for each page in the space map page whether that page is the first page allocated to a LOB, col. 4, line 60 to col. 5, line 6).

Nonstandard information limitation equates to the index information for the file of Nunally, col. 8, line 66 to col. 9, line 14, which used to update the index file *(i.e. the sequence is added to a positive result list (step 152) and the index information for the file is updated to indicate detection of the event (step 154). That is, the event-related data shown at 104 in FIG. 5 is updated to indicate detection of the event, as well as the confidence factor applicable to the event detection decision, col. 10, lines 37-62; FIG. 5 illustrates a format in which compressed video and audio data are stored on one or more of the hard disk drives of the analysis/storage device. As seen from FIG. 5, the data stored on the hard drives includes compressed video and audio data files indicated generally at 92 and index data indicated generally at 94, col. 8, line 66 to col. 9, line 14).*

Bratton fairly teaches the additional nonstandard information as the first file portion is unusable as a media file in [0013], or RM and EA files in Fig. 6 (new ground of rejection).

2. Recovery of the media file upon the media file being damaged.

The media file being damaged is taught by Bratton as "Even if a person guessed that the file contained media data, the person would still not have the

file header information for the original media file, [0055] (new ground of rejection).

Recovery of the media file is taught by Bratton as "reconstruct the file header", [0055] (new ground of rejection).

3. The CNVD chunk.

Notably, the instant specification describes the term "non-standard information" as CNVD chunk (See [0116], Specification).

However, the abbreviation of CNVD is not described in detail in the Specification.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James K. Trujillo, can be reached at (571) 272-3677. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/
Primary Examiner, Art Unit 2159